

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of the claims.

1-84. (canceled)

85. (new) A monoclonal antibody that specifically binds to amino acids 33-52 or 33-53 of human STOP-1.

86. (new) The monoclonal antibody according to claim 85, wherein the antibody blocks STOP-1 binding to cells.

87. (new) A monoclonal antibody that specifically binds to amino acids 94-243 of human STOP-1.

88. (new) The monoclonal antibody according to claim 87, wherein the antibody potentiates STOP-1 binding to cells.

89. (new) The monoclonal antibody according to claim 85 or 87, wherein the monoclonal antibody binds to an oligomeric form of human STOP-1.

90. (new) A monoclonal antibody comprising:

(a) a first amino acid sequence comprising:

T - I - X1 - X2- X3-X4

wherein X1 is S, N or T;

wherein X2 is G, N, S or A;

wherein X3 is Y, S or T;

wherein X4 is D or W.

(b) a second amino acid sequence comprising:

X1-X2-I-X3-P-X4-X5-G-X6-T-X7 (SEQ ID NO:115)

wherein X1 is G or A;

wherein

(1) X2 is an amino acid selected from the group consisting of S, T, A, and X3 is an amino acid selected from the group consisting of R, W and Y; or

(2) X3 is an amino acid selected from the group consisting of S, T, A, and X2 is an amino acid selected from the group consisting of R, W and Y;

wherein X4 is Y or F;

wherein X5 is G, S, T or A;

wherein X6 is N, Y or A;

wherein X7 is N, Y or D; and

(c) a third amino acid sequence comprising the sequence:

C-X1-X2-X3-G-G-X4-X5-X6-X7-X8-X9-X10-X11 (SEQ ID NO:116)

wherein X1 is A, S or T;

wherein X2 is basic amino acid;

wherein X3 is any amino acid;

wherein X4 is a hydrophobic amino acid;

wherein any one of X5- X8 can be any amino acid or can be missing, and at least one of X5-X8 is an aromatic amino acid or a hydrophobic amino acid;

wherein X9 is an aromatic or hydrophobic amino acid;

wherein X10 is D or A; and

wherein X11 is Y or V.

91. (new) The antibody according to claim 90, wherein the first amino acid sequence is selected from any one of the group consisting of TISGSD (SEQ ID NO:8), TITNSD (SEQ ID NO:11) and TISGSW (SEQ ID NO:17).

92. (new) The antibody according to claim 90, wherein the second amino acid sequence is selected from any one of the group consisting of GRISPYGGNTN (SEQ ID NO:9), ATIYPYGGYTY (SEQ ID NO:12) and AWIAPYSGATD (SEQ ID NO:18).

93. (new) The antibody according to claim 90, wherein the third amino acid sequence is selected from any one of the group consisting of CARVGGLKLLFDY (SEQ ID NO:10), CARGGGMDGYVMDY (SEQ ID NO:13) and CAREGGLYWVFDY (SEQ ID NO:19).

94. (new) A monoclonal antibody selected from the group consisting of:
(i) a monoclonal antibody comprising (a) a V_H -CDR1 comprising the amino acid sequence of TINNYD (SEQ ID NO:14); (b) a V_H -CDR2 comprising the amino acid sequence of GYISPPSGATY (SEQ ID NO:15); and (c) a V_H -CDR3 comprising the amino acid sequence CARMVGMRRGVMDY (SEQ ID NO:16); and
(ii) a monoclonal antibody produced by the hybridoma cell line deposited with ATCC under accession number 6B12.1.7.

95. (new) A monoclonal antibody selected from the group consisting of:
(i) a monoclonal antibody comprising (a) a V_H -CDR1 comprising the amino acid sequence TISGSD (SEQ ID NO:8); (b) a V_H -CDR2 comprising the amino acid sequence GRISPYGGNTN (SEQ ID NO:9); and (c) a V_H -CDR3 comprising the amino acid sequence CARVGGLKLLFDY (SEQ ID NO:10);
(ii) a monoclonal antibody comprising (a) a V_H -CDR1 comprising the amino acid sequence TITNSD (SEQ ID NO:11); (b) a V_H -CDR2 comprising the amino acid sequence ATIYPYGGYTY (SEQ ID NO:12); and (c) a V_H -CDR3 comprising the amino acid sequence CARGGGMDGYVMDY (SEQ ID NO:13);
(iii) a monoclonal antibody comprising (a) a V_H -CDR1 comprising the amino acid sequence TISGSW (SEQ ID NO:17); (b) a V_H -CDR2 comprising the amino acid sequence AWIAPYSGATD (SEQ ID NO:18); and (c) a V_H -CDR3 comprising the amino acid sequence CAREGGLYWVFDY (SEQ ID NO:19); and

(iv) a monoclonal antibody comprising (a) a V_H-CDR1 comprising the amino acid sequence TISNYG (SEQ ID NO:20); (b) a V_H-CDR2 comprising the amino acid sequence GRISPSNGSTY (SEQ ID NO:21); and (c) a V_H-CDR3 comprising the amino acid sequence CAKCSVRFAY (SEQ ID NO:22).

96. (new) A monoclonal antibody comprising the amino acid sequence of:
- (a) the heavy chain of FIG.27 (amino acids 21-250 of SEQ ID NO:93);
 - (b) the heavy chain of FIG.28 (amino acids 21-247 of SEQ ID NO:96);
 - (c) the heavy chain of FIG.29 (amino acids 21-250 of SEQ ID NO:99);
 - (d) the heavy chain of FIG.30 (amino acids 21-251 of SEQ ID NO:102); or
 - (e) the heavy chain of FIG.34 (amino acids 17-468 of SEQ ID NO:112).

97. (new) A monoclonal antibody comprising the amino acid sequence of the heavy chain of FIG.31 (amino acids 21-251 of SEQ ID NO:105).

98. (new) The monoclonal antibody according to claim 96 or 97, further comprising the amino acid sequence of:

- (a) the light chain of FIG.27 (amino acids 24-239 of SEQ ID NO:92); or
- (b) the light chain of FIG.33 (amino acids 20-233 of SEQ ID NO:110).

99. (new) A monoclonal antibody having a biological characteristic of an antibody selected from the group consisting of S7 encoded by the nucleic acid molecule deposited on March 25, 2003 as designation V0350-4-S7, and S4 encoded by the nucleic acid molecule deposited on March 25, 2003 as designation V0350-2b-S4, wherein the biological characteristic is the ability to potentiate STOP-1 binding to cells.

100. (new) A monoclonal antibody having a biological characteristic of 6B12 produced by the hybridoma cell line deposited on March 28, 2003 as designation 6B12.1.7 in the American Type Culture Collection (ATCC), wherein the biological characteristic is the ability to block STOP-1 binding to cells.

101. (new) A monoclonal antibody that specifically binds to STOP-1, wherein the binding of the antibody to STOP-1 can be inhibited by a second monoclonal antibody selected

from the group consisting of S7 encoded by the nucleic acid molecule deposited with ATCC as designation V0350-4-S7, S4 encoded by the nucleic acid molecule deposited with ATCC as designation V0350-2b-S4, S9 encoded by the nucleic acid molecule deposited with ATCC as designation V0350-2b-S9, and S16 encoded by the nucleic acid molecule deposited with ATCC as designation V0350-4-S16.

102. (new) A monoclonal antibody that specifically binds to STOP-1, wherein the binding of the antibody to STOP-1 can be inhibited by a second monoclonal antibody selected from the group consisting of F5 encoded by the nucleic acid molecule deposited with ATCC as designation V0350-4-F5 and 6B12 produced by the hybridoma cell line deposited with the ATCC as designation 6B12.1.7.

103. (new) A monoclonal antibody that specifically binds to STOP-1, wherein the antibody comprises the light and heavy chain sequences of an antibody selected from the group consisting of S7 encoded by the nucleic acid molecule deposited with ATCC as designation V0350-4-S7, S4 encoded by the nucleic acid molecule deposited with ATCC as designation V0350-2b-S4, S9 encoded by the nucleic acid molecule deposited with ATCC as designation V0350-2b-S9, and S16 encoded by the nucleic acid molecule deposited with ATCC as designation V0350-4-S16.

104. (new) A monoclonal antibody that specifically binds to STOP-1, wherein the antibody comprises the light and heavy chain sequences of an antibody selected from the group consisting of F5 encoded by the nucleic acid molecule deposited with ATCC as designation V0350-4-F5, and 6B12 produced by the hybridoma cell line deposited with the ATCC as designation 6B12.1.7.

105. (new) The antibody according to any one of claims 85-88, 90-97 and 99-104, wherein the antibody is a chimeric antibody, humanized antibody, antibody fragment, or bispecific antibody.

106. (new) The antibody according to any one of claims 85-88, 90-97 and 99-104, wherein the antibody is conjugated to an agent selected from the group consisting of a growth

inhibitory agent, a cytotoxic agent, a detection agent, an agent that improves the bioavailability of the antibody, and an agent that improves the half-life of the antibody.

107. (new) The antibody according to claim 106, wherein said cytotoxic agent is selected from the group consisting of a toxin, an antibiotic and a radioactive isotope.

108. (new) A composition comprising the monoclonal antibody according to any one of claims 85-88, 90-97 and 99-104.

109. (new) The composition according to claim 108, further comprising a stromal targeting agent.

110. (new) The composition according to claim 109, wherein the stromal targeting agent is covalently linked to the monoclonal antibody.

111. (new) The composition according to claim 109, wherein the stromal targeting agent recognizes a stromal cell of a tumor.